

CLAIMS

What is claimed is:

1. A process for lowering the heat sealing temperature of a polyolefin-based thermoplastic, comprising the step of replacing at least a portion of the polyolefin in
5 the thermoplastic with a branched polyolefin having a density of about 0.86 to about 0.93 g/mL, and having methyl branches and at least branches of two other different lengths of six carbon atoms or less, provided that said methyl branches are at least 10 mole percent of total branching in said branched polyolefin.

10 2. The process as recited in claim 1, wherein the branched olefin is obtainable by polymerizing an olefin in the presence of a catalyst component comprising a late transition metal catalyst.

15 3. The process as recited in claim 2, wherein the late transition metal catalyst is a late transition metal complex of a diimine ligand.

4. The process as recited in claim 1, wherein the branched polyolefin has a density of about 0.86 to about 0.91 g/mL.

20 5. The process as recited in claim 1, wherein said branched polyolefin is a homopolyethylene.

25 6. A first article having a first thermoplastic surface suitable for heat sealing to a second thermoplastic surface of the same or another article, wherein said first thermoplastic surface comprises a branched polyolefin having a density of about 0.86 to about 0.93 g/mL, having methyl branches and at least branches of two other different lengths of six carbon atoms or less, provided that said methyl branches are at least 10 mole percent of total branching in said branched polyolefin.

30 7. The first article as recited in claim 6, wherein the branched olefin is obtainable by polymerizing an olefin in the presence of a catalyst component comprising a late transition metal catalyst.

8. The first article as recited in claim 6, wherein the first article is a film.

9. The first article as recited in claim 6, wherein the branched polyolefin has a density of about 0.86 to about 0.91 g/mL.

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10. The first article as recited in claim 6, wherein said branched polyolefin is a homopolyethylene.

10 11. A process for preparing an article comprising the step of heat sealing a first thermoplastic surface to a second thermoplastic surface, wherein the first thermoplastic surface and the second thermoplastic surface comprise a branched polyolefin having a density of about 0.86 to about 0.93 g/mL, having methyl branches and at least branches of two other different lengths of six carbon atoms or less, provided that said methyl branches are at least 10 mole percent of total
15 branching in said branched polyolefin.

12. The process as recited in claim 11, wherein the branched olefin is obtainable by polymerizing an olefin in the presence of a catalyst component comprising a late transition metal catalyst.

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13. The process as recited in claim 11, wherein the article is a single or multilayer film.

25 14. The process as recited in claim 11, wherein said branched polyolefin has a density of about 0.86 to about 0.91 g/mL.

15. The process as recited in claim 11, wherein said branched polyolefin is a homopolyethylene.

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16. An article made at least in part from a first thermoplastic surface and a second thermoplastic surface joined together by heat sealing, wherein the first thermoplastic surface and a second thermoplastic surface comprise a branched polyolefin having a density of about 0.86 to about 0.93 g/mL, having methyl

branches and at least branches of two other different lengths of six carbon atoms or less, provided that said methyl branches are at least 10 mole percent of total branching in said polyolefin.

5 17. The article as recited in claim 16, wherein the branched olefin is obtainable by polymerizing an olefin in the presence of a catalyst component comprising a late transition metal catalyst.

10 18. The article as recited in claim 16, wherein the article is a single or multi-layer film.

 19. The article as recited in claim 16, wherein the branched polyolefin has a density of about 0.86 to about 0.91 g/mL.

15 20. The article as recited in claim 16, wherein said branched polyolefin is a homopolyethylene.